



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/635,610	08/07/2003	Hiroshi Higuchi	Q76677	9598
23373 7590 06/23/2008 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER TRIMIEW, RAEANN	
			ART UNIT 3711	PAPER NUMBER
			MAIL DATE 06/23/2008	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/635,610

**Applicant(s)**

HIGUCHI ET AL.

**Examiner**

Raeann Trimiew

**Art Unit**

3711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-81 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date 6-4-08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-50 and 53-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt et al (6,612,940). Claims 1 and 81, Nesbitt discloses a golf ball comprising a core, an inner core layer, and outer cover layer. The core is made from a rubber composition comprising two polybutadienes. Table 30, discloses a core formulation comprised of Cariflex BCP-820, Neo Cis 60 (applicant's component a) and Neo Cis 40. The composition includes 30 parts of Neo Cis 60 which has a cis-1,4 content of 97.5%, a vinyl content of 0.8%, and a mooney viscosity from 60 to 66 (table 2). Neo Cis 60 is synthesized using a rare earth metal, neodymium. The solution viscosity in toluene is not provided in the specification however, applicant's IDS filed 6/4/08 provides a solution viscosity of 435.3 mPA\*s for Neo Cis 60 (page 13). According to the claim component (b) may be present in zero amounts. Nesbitt further discloses the composition includes 18.2 parts of zinc diacrylate, 0.1 to 5 parts dithiocarbonates (organosulfur, see col. 13, line 27), 31.4 parts zinc oxide (filler), and 1.25 parts (Triganox, peroxide) (see table 30). Table 34 discloses an inner cover layer Shore D hardness of 70 and Table 37 discloses the outer cover layer Shore D hardness

Art Unit: 3711

of 46. Claim 2 is an equation comprising the Mooney Viscosity and polydispersity ( $M_w/M_n$ ) of the polybutadiene. The polydispersity is not provided in the specification however, applicant's IDS filed 6/4/08 provides a polydispersity of 2.919 for Neo Cis 60 (page 13). Substituting the values in the equation results ( $34 \leq \{60 \text{ to } 66\} \leq 89$ ). Claim 3, as shown above Nesbitt discloses the composition may include Neo Cis 40 and Cariflex BCP-820, polybutadienes. Nesbitt discloses Neo Cis 40 has a cis-1,4 content of 97.5%, a vinyl content of 0.8%, and a Mooney viscosity from 38 to 48. The solution viscosity in toluene is not provided in the specification however, applicant's IDS filed 6/4/08 provides a solution viscosity of 265.3 mPA\*s for Neo Cis 40 (page 27). Substituting the values in the equation results ( $265.3 \leq \{210 \text{ to } 410\}$ ). Claim 4, the second polybutadiene is synthesized using neodymium catalyst, however, Nesbitt discloses polybutadienes synthesized with nickel or cobalt catalyst may be substituted. Claim 5, Nesbitt discloses the inner cover layer has a thickness of at least 0.01 inch or 0.254 mm and an outer cover layer thickness from 0.01 to 0.20 inch or 0.254 to 5 mm. Claims 6-8, Neo Cis 60 has a cis-1,4 content of 97.5% and a vinyl content of 0.8%. Claims 9-12, The solution viscosity in toluene is not provided in the specification however, applicant's IDS filed 6/4/08 provides a solution viscosity of 435.3 mPA\*s for Neo Cis 60 (page 13). Varying the polybutadiene type is within the capabilities if one skilled in the art. Claim 13, substituting the values in the equation results ( $36 \leq \{60 \text{ to } 66\} \leq 84$ ). Claim 14, substituting the values in the equation results ( $37 \leq \{60 \text{ to } 66\} \leq 79$ ). Claim 15, substituting the values in the equation results ( $38 \leq \{60 \text{ to } 66\} \leq 74$ ). Claims 16-18, Neo Cis 60 has a mooney viscosity from 60 to 66 (table 2). Claim 19,

Neo Cis 60 is synthesized using a rare earth metal, neodymium. Claims 20-22, the composition includes 30 parts of Neo Cis 60. Varying the quantity of the polybutadiene is within the capabilities of one skilled in the art. Claim 23, as shown above Nesbitt discloses the composition may include Neo Cis 40 and Cariflex BCP-820, polybutadienes. Claims 24-26, the composition includes from 30 to 70 parts of the second polybutadiene (includes Neos Cis 40 alone and in combination with Cariflex, table 30). Claims 27-29, Nesbitt discloses Neo Cis 40 has a cis-1,4 content of 97.5% and a vinyl content of 0.8%. Claims 30-33, Neo Cis 40 has a Mooney viscosity from 38 to 48. Claims 34-36, the solution viscosity in toluene is not provided in the specification however, applicant's IDS filed 6/4/08 provides a solution viscosity of 265.3 mPA\*s for Neo Cis 40 (page 27). Claims 37-38, second polybutadiene includes 40 parts Cariflex BCP-820 and 30 parts Neo Cis 40. Varying the ranges is within the capabilities of one skill in the art. Claims 39-41, Nesbitt discloses the composition includes 18.2 parts of zinc diacrylate in table 30 and further discloses a range from 15 to 50 parts (col. 11). Claims 42-44, Nesbitt discloses the composition includes 0.1 to 5 parts dithiocarbonates (organosulfur, see col. 13, line 27). Claims 45-47, Nesbitt discloses the composition includes 31.4 parts zinc oxide (filler). Claims 48-50, Nesbitt discloses the composition includes 1.25 parts (Triganox, peroxide) (see table 30). Claims 53-64, Nesbitt discloses a JIS-C hardness for the core from 67-73 (table 31) but does not disclose if the range is for surface or center hardness. However, since the materials disclosed by applicant parallel the materials disclosed by Nesbitt the hardness values as well as hardness differences within the core will be the same. Claims 65-68, Nesbitt

discloses a Riehl compression from 124-153 but does not disclose the deflection under 100 kg. However, since the materials disclosed by applicant parallel the materials disclosed by Nesbitt the deflection will be the same. Claim 69, the core diameter is 1.47 inches or 37.3 mm (table 31). Claim 70, the specific gravity for the core is 1.194 (table 31). Claims 71-80, Table 34 discloses an inner cover layer Shore D hardness of 70 and Table 37 discloses the outer cover layer Shore D hardness of 46. Varying the hardness is within the capabilities of one skilled in the art. One of ordinary skill in the art would vary the ranges as an obvious design choice.

Claims 51 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nesbitt et al (6,612,940) in view of Yamada (5,244,969). Nesbitt discloses the invention but fails to disclose the antioxidant. Yamada teaches a rubber core composition comprising from 0.1 to 1 part antioxidant. One of ordinary skill in the art would have included the antioxidant since it is quite common in golf balls.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raeann Trimiew whose telephone number is 571-272-4409. The examiner can normally be reached on Mon-Fri 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eugene Kim can be reached on 571-272-4463. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raeann Trimiew/  
Primary Examiner  
Art Unit 3711

June 18, 2008